



North-South Research Cooperation

How can contributions from Swedish universities
be sustained and improved?

North-South Research Cooperation:

HOW CAN CONTRIBUTIONS FROM SWEDISH
UNIVERSITIES BE SUSTAINED AND IMPROVED?

Erik W. Thulstrup

Author: Erik W. Thulstrup

The views and interpretations expressed in this report are the author's and do not necessarily reflect those of the Swedish International Development Cooperation Agency, Sida.

Photo: Researchers from Sveriges Lantbruksuniversitet (SLU), Sweden and National University of Agriculture, Nicaragua studying the map of the watershed of the river Las Canoas in Boaco, Nicaragua”.

Published by: Sida, 2009

Commissioned by Sida, Secretariat for Research Cooperation

Copyright: Sida and the author

Printed by: Edita, 2010

Art.no.: SIDA61272en

ISBN 978-91-586-4133-4

This publication can be downloaded/ordered from www.sida.se/publications

Table of Contents

1. Summary	7
2. Background:	10
3. The need for new strategies	13
4. A survey among Swedish university researchers and managers ..	18
5. Swedish universities: Past experiences	20
6. The survey: Preferences and opinions	24
7. Conclusions and recommendations:	30
Acknowledgement	35
Annex 1. Terms of Reference	36
Annex 2. Research cooperation with developing countries:	43



1. Summary

For years Sweden has been an international leader in research and higher education cooperation with developing countries. The former SAREC and Sida-SAREC organizations developed new, innovative policies, such as the sandwich programs, emphasis on local ownership, and support for research structures far beyond support to individual projects. Swedish universities were key players in these efforts; they provided not only high quality research training for developing country students, but also competent and constructive partnerships for developing country universities.

With the increasing importance of research based knowledge, also in developing countries, the need for research training in the South has expanded considerably. Most developing countries have plenty of research talent, but there is usually a shortage of funds and opportunities available for providing them with the needed high quality training, at least if much of it has to take place in expensive industrialized countries. This is one reason that it is necessary for these countries to start developing strong graduates programs at home. Therefore, Sida is presently looking for strategies that will make it possible for the present partnerships with Swedish universities to gradually develop into strong, independent graduate programs in the South.

Changing demands and conditions are not only a reality in the South. Also Swedish universities are experiencing financial reforms that may make partnerships with universities in the South more difficult. Examples are the need (from 2011) to ask tuition fees from developing country students (and other students from outside the EU) and the stronger demand for certain types of research outputs, such as publications and citations, with less emphasis on other research outputs, such as improvements in developing country research.

A representative group of researchers and managers at Swedish universities (the Panel) has been asked about how they view the present and future cooperation with partner universities in the South, and their responses have been summarized and commented in this report.

Among the main results are the following:

- the recent government initiatives in the field, including the “Swedish Policy for Global Development”, are considered positive, although they have not caused any substantial excitement at Swedish universities
- the communication between Sida and the Swedish universities get decent scores, but can be improved in some respects, as discussed in this report
- the information provided by Sida is generally satisfactory, but it can also be improved in simple ways

- the traditional sandwich degree programs are considered quite effective by the Panel, although the periods the students spend at home are not always used well, and their careers after graduation at times are not well planned. Nor are these careers monitored sufficiently well. Some concrete proposals are made to reduce these weaknesses. In particular, a further strengthening of the contracts between Sida and universities in the South may help
- bureaucracy is often extensive in university administrations in developing countries, especially with regards to the financial administrations. The larger degree of ownership given to the South makes this an increasing problem, also for Swedish partners. There is wide agreement within the Panel that the transfer of ownership in this respect at times must wait to avoid administrative bottlenecks that hurt the research activities severely
- Swedish universities have a strong interest in taking part in the development of graduate programs in the South, but ensuring the research quality remains a major concern
- the openness towards cooperative activities with the South is high, both in the form of joint courses and joint degrees. Among several constructions, the joint degree is clearly the preferred degree type, and it is likely to become the most widely used option in the future
- many consider development of Master degree programs in the South a useful step, but much emphasis is again placed on the necessary research quality
- the interest at Swedish universities to be partners in the development of PhD programs in developing country universities is strong, but only as long as research quality remains a main issue. It may be added that many of the Swedish researchers involved in partnerships expect the establishment of strong PhD programs will take a long time, especially in some (but not all) of the poorest countries
- stronger incentives may be needed to secure a better Swedish university participation in the transfer of PhD programs to the South. One constructive possibility would be grants for post-doctoral visits in Sweden, e.g. for one year
- the Panel expressed a considerable interest in the establishment of graduate schools in Sweden for international groups of students, including students from the South. Research groups at some Swedish universities have already started or applied for such activities
- similarly, the interest for taking active part in the establishment of graduate schools in developing countries is also high in Sweden, as long as the conditions (e.g. with respect to quality and compensation) are found reasonable

Finally, many Panel members consider a couple of overriding administrative changes to be of the highest importance:

- in order for Swedish individuals and universities to be better motivated for work in partnerships with colleagues in the South it is important that they can count on a reasonable time frame for the work. At times it is feared that a partnership must be interrupted prematurely due to sudden Swedish policy changes. An effort should be made to reduce such fears.

- essentially all Panel members would like to reduce bureaucracy, not only in the partnerships, but also in their cooperation with Sida. Many feel that this could be achieved if Sida signed a general contract with each Swedish university involved, instead of with single research groups. This might also have other benefits; it would, for example, make the universities better aware of the importance of these activities and those involved might have a better chance of getting the credit they deserve

2. Background:

Swedish research cooperation with developing countries

The long history of Swedish research support. During the last 35 years Sweden has supported research of significance for developing countries. Initially this was done through international research programs and national research councils in developing countries, but in 1990 this strategy was changed. Instead, creation of institutional research capacity in developing countries became the target. The most important part of this strategy was to provide research training to university staff at developing country universities, usually through research training (Master or Doctoral programs) in relevant disciplines. These activities were carried out in collaboration with Swedish universities at which the degrees were usually awarded.

Major policy initiatives. SAREC and Sida-SAREC have in many ways provided important leadership in the international efforts to build research capacity in developing countries. There are many examples of this; among the most important policy creations are:

- the sandwich model for research training, which will be discussed in detail in the following
- the provision of wider support (beyond the individual research projects) for research capacity building at the national and even regional level
- the emphasis on local project ownership by partners in the South

The sandwich model for research training. After some years of providing research training only in Sweden, it became clear that sending developing country students to a Western country for several years was not an effective way to build sustainable research capacity in the South. Contact with the home base was often lost, the studies moved away from problems of key interest at home, and brain drain became an obvious risk.

Instead the so-called sandwich model for research training was adopted. In this model the graduate students regularly visit their home country for data collection, etc., while study periods in Sweden are used for work with competent advisors and use of modern research facilities, such as laboratories, equipment and libraries. A build-up of a research infrastructure at home is also an important part of the strategy, for example through provision of modern equipment. The visits at home not only ensures that the research training involves work on projects of relevance in the students' own countries, it also allows data collection at home. Altogether this reduces brain drain. During the studies the students commute at regular intervals between their home university and a host university in Sweden. Often, but not necessarily always, the Swedish partner will award the research degree.

Today the sandwich model is highly appreciated, not only by Swedish universities but also by several other donor organizations, and, most of all by cooperating institutions in developing countries. They find that sandwich model research training in cooperation with a Swedish university has several advantages, such as:

- studies take place in an international research environment
- modern and well equipped laboratories and libraries are available abroad and eventually also at home¹
- the opportunities for collaboration with Swedish researchers are excellent
- participation in international conferences, etc. is easy
- publication of research results take place in international journals
- opportunities are good for obtaining an internationally recognized degree

Equally important is the connection with the home base:

- the students are generally recruited among developing country university staff and (sometimes) students
- often the research subjects are chosen to be of particular importance for real life problems in the home country
- the field work and data collection, in fields where this is relevant, are carried out at home
- key research facilities, such as laboratory equipment, are provided for the home university laboratories while the studies take place, thus creating a more attractive research environment at home
- by using the graduate students as a “glue”, a wider institutional cooperation may be developed between a research group, a department, or a university in the developing country and similar partners in Sweden.

It is of great importance that the sandwich model encourages research staff to return to/stay in their home countries. This diminishes the risk of losing human capital to rich countries through brain drain, the way it often happens in the case of long, uninterrupted stays in an industrialized country.

New research needs in the South. The Sida sponsored research cooperation has gradually widened its scope. In particular it has become more system oriented in accordance with the primary aim, to create sustainable research systems in developing countries. Sometimes the support goes all the way to research and higher education at the national level, for example through the ministries responsible for these activities. In accordance with needs and opportunities in the South, the nature of the research cooperation has changed gradually through the years and it is likely that it will continue to develop in the future. A key issue in the coming years will be the need for production of a much larger number of research trained university staff in the South.

Despite the success of the sandwich model research training with graduation at a Swedish university, it does not cover all future needs. Especially the relatively high costs of the activities in Sweden limits the

¹ Among other, the International Foundation for Science, IFS, has specifically demonstrated that even modest improvements of the local research environment may reduce brain drain considerably. There is no doubt that if a similar investigation were made of Sida's support for research environments in the South, the result would be the same.

number of doctoral degrees that can be produced. This limitation makes it hard to satisfy the need for a faster and broader development of research capacity in the South. This need is to a large extent caused by the globalization and other international trends, such as the increasing importance of knowledge based activities.

Knowledge based development. Today social and economic development is more dependent than ever on advanced (research based) knowledge. Such knowledge makes it possible for developing countries to develop, acquire, transfer and use efficiently modern technologies. This is illustrated by several fast developing countries in East Asia, including China, and before that Singapore, South Korea, and Taiwan. In order for poor countries to experience this kind of fast development, it is necessary for them to become part of the “global knowledge society”, both as consumers and as producers of knowledge. The latter part is often difficult, but it is important.

Universities in the South under pressure. The political and popular demand for access to higher education has grown fast in most developing countries, for several reasons. These include population growth, migration to urban areas, improved access to secondary education, etc. Universities have often responded by increasing their intake of students drastically, but the available funding and the number of well-trained university teachers have often not grown similarly. New universities have also appeared, many of them private, and often degrees are awarded without proper quality control of the study programs.

While many Chinese universities during the last decade have managed to increase student intake and improve quality at the same time, the situation is quite different in most other developing countries, although there are a few exceptions. The most common reasons for the problems experienced by expanding universities are the lack of financial and human resources, and a lack of proper regulations, quality control systems, efficient management culture, and the necessary infrastructure.

3. The need for new strategies

The Swedish Policy for Global Development (PGU). In the document “Shared responsibility: Sweden’s Policy for Global Development”, the Swedish Government has defined the Swedish strategy for global development. The main objective of the policy is to contribute to a fair and sustainable global development, with a special focus on people and countries with the least resources and opportunities. The policy states that this should be a concern of the entire Swedish society, including the universities.

The PGU recognizes the increasing importance of knowledge and of improved access to quality education, also in low-income countries. It specifically emphasizes the importance of support for research and education systems, scientific exchange, and other (academic) exchange programs in developing countries. To promote the implementation of the PGU, the government has released a more concrete specification of the Policy for Global Development in 2008 and further emphasized the collective responsibility for the implementation of PGU.

Knowledge without borders. On June 0, 2009, by the Swedish Parliament approved the bill “Knowledge without borders – higher education in the era of globalization”. This important bill contains a framework for the participation of Swedish universities in global activities. Although most research fields at Swedish universities have been strongly internationalized for years, a number of changes in the laws on higher education are likely to allow an even further internationalization of Swedish higher education in response to new global challenges.

The international mobility of academically trained people is increasing these years and this has many positive consequences. However, at times it also leads to severe, negative implications for the development of higher education and research capacities in the poorest countries of the world, especially through brain drain. It is both difficult and often unproductive to prevent well-educated young people from studying and seeking employment in countries that offer better opportunities, but the increased mobility poses a severe risk to development in the poorest countries.

It is important for Sweden to promote a kind of international mobility that makes it possible for these countries to gain and preserve badly needed capacities. Today a knowledge society needs to be competitive to attract and retain the best students, the best university teachers, and the best researchers. This challenge may be met by ensuring a high quality of higher education and research, also in poor countries.

The bill on education without borders states that participation in a global education sector requires international harmonization of education systems and quality standards. It recommends elimination of all obstacles to internationalization of higher education and encourages, among other, joint education programmes and joint degrees between

Swedish and foreign universities. The bill will provide new opportunities for many kinds of Swedish research cooperation, including cooperation with the poorest developing countries.

Adjusting to the changing needs in the South. The quantitative limitations in the outputs from the earlier strategies applied by SAREC and Sida, e.g. the sandwich programs, are hardly surprising, and mass production of university teachers and researchers was never expected from this kind of research cooperation. Rather, the aim of the research cooperation has been to support the creation of national research systems that can reproduce and sustain themselves, also through international cooperation, and which can produce new knowledge, especially development relevant and locally applicable knowledge.

BOX 1. MODERNIZING CHEMISTRY IN VIETNAM AT LOW COST

A cooperation between the National University of HoChiMinh City, Vietnam, and Roskilde University in Denmark had the purpose of modernizing Chemistry in Vietnam with support from Danida. The main activity was MSc- and PhD-training for young Vietnamese staff members. Since these programs formally existed in the Vietnamese partner university and only were insufficiently productive because of bottlenecks in connection with the required research projects, it was decided to let the students carry out their research project during 1 (MSc) or 3 (PhD) semesters in Denmark. All other activities (project preparation, thesis writing, required coursework, etc.) took place in Vietnam. Each of the over 50 students in the program had one advisor from each country, but the Vietnamese partner university awarded the degree, thus reducing the risk of brain drain further.

In spite of the high fees that had to be paid to Roskilde University (SEK 70,000/semester) and other high expenditures, the total cost per MSc was only about SEK 160,000. If the complete program had been performed in Denmark (as done in other Danida projects) the cost would have been closer to SEK 500,000. The relative savings on PhD programs were almost as high. The main reason for the difference was the almost negligible costs for living expenses and fees in Vietnam compared with those in Denmark. In spite of the lower costs, all students were given a solid introduction to international research in their field and learned to use modern equipment and to discuss their research in English with international peers. They were also given their first chance ever to live and work in another country, a key experience for a young researcher.

The Addis initiative. This SAREC/Sida strategy has in many ways been a success. By training a core of researchers at a good level in relevant research fields, the sandwich model has often helped create the foundation for local Master and PhD programs in developing partner countries. Several of these countries have achieved a critical mass of researchers in key disciplines² and are now pursuing their own research training programs. One recent example is a major initiative at Addis Ababa University (AAU) in Ethiopia, which is presently working on a plan to become a national (possibly regional) graduate school in a wide range of fields. This is done with substantial support from both Sida and the Ethiopian Government, but AAU has considerable freedom to decide on the priority of the activities. This development is reinforced by a fast increasing demand for higher education at a good quality level, which also leads to

² However, different research fields often have established capacities to very different levels, even within the same university. The capacity building is rarely uniform across the fields

an increasing demand for local research based training; there are today many university jobs available in Ethiopia for research trained staff.

Expanding research training. When most of the research training can be performed in the home country, the costs are usually reduced drastically (Box 1). This is true even when limited study periods abroad (for example in Sweden) are needed, which will often be the case. Transfer of most of the training to the home country makes it thus economically feasible to train a larger number of research students. As mentioned above, local PhD-training programs may improve the opportunities for retaining the graduates within the developing country. There is, however, a limit to the savings that can be obtained. Not only may some international exposure be necessary, but in many fields students also have to become familiar with the state-of-the-art equipment, which rarely is available to the full extend at home. Therefore, in most research fields and countries, the domestic programs must be expanded by adding shorter research visits abroad (such internationalization is actually also required in many PhD programs in industrialized countries).

BOX 2. MAKERERE UNIVERSITY AND KAROLINSKA INSTITUTE: A JOINT PHD PROGRAM

In 2003 Makerere University in Kampala, Uganda, and Karolinska Institute in Stockholm, Sweden, worked out a "Memorandum of Understanding" on the establishment of a joint PhD program in Medical Science. The purpose was to strengthen the cooperation between the two institutions, facilitate staff development, improve administrative procedures, and to widen the internationalization of the two institutions.

The demands were in a sense hard, since candidates for the program had to satisfy the combined requirements with respect to registration, training and examination of the two institutions. In return they were given two advisers (with equal responsibilities), one from each institution. Also the PhD evaluation committee contain members from both institutions, while the oral defense may take place either in Uganda or Sweden. The PhD diploma (letter of award) contains the two institutional logos side by side together with the two university seals, and the proper authorities of both institutions sign it. Furthermore, the title of the degree is given in both English and Swedish.

The PhD program is in principle open for all, including students from Sweden, but so far all the 15 PhDs produced under the joint degree program have been from Uganda. A new phase of the cooperation will start in 2010, but the joint degree cooperation will continue as before.

Establishing graduate programs in the South. Sida already supports local graduate programs, especially Master programs, in several countries. In Ethiopia, for example, Master programs in many Science fields have existed in about 20 years. Many such programs have been developed in cooperation between local PhD holders (often graduates from SAREC supported sandwich programs) and university managements in the South on the one hand and research groups from Swedish universities on the other (see Box 2 for an advanced example). The latter have contributed not only within specific research fields, e.g. by giving key courses or advising graduate students in connection with their theses, but also by assisting in the curriculum development and in the establishment of degree frameworks and regulations.

Presently Sida is considering increasing its support for creation of more local PhD programs in the South, as it is doing in Ethiopia. The reason is not that Sida has been dissatisfied with the quality outcomes of the traditional cooperation between universities in Sweden and in the South, based on sandwich programs and with extensive contributions from Sweden. The main reasons are:

- it is possible – a critical mass of qualified researchers is now available in various research fields at several universities in the South, partly a result of many years of sandwich training, and
- the fast increase in the need for research trained people, making it necessary to apply less expensive research training strategies than before.

One key question is to which extent and how it will be possible to ensure a similar quality as in Sweden within the local PhD-training with graduation in partner countries in the South. In this connection it is important to ensure continued commitment and support (which in many cases will be needed for several years into the future) of the Swedish universities after most of the activities have been moved away from Sweden.

When a university in the South is ready, it is the intention that the present Swedish partners in sandwich programs gradually will reduce their presence according to the improvement of the local capacity in the South. It is the hope that this process will ensure that the quality of the local research training will be similar to that obtained in traditional sandwich programs leading to Swedish degrees.

Quality and relevance. It is not only a quantitative expansion of graduate training in the South that is required today, also other issues are becoming increasingly important. Swedish researchers generally agree that quality is a key concern in connection with development of graduate programs in the South; if it is not satisfactory the training will not be able to produce the wanted final outcomes. Particularly in connection with quality issues, Swedish universities may be able to make substantial contributions, most of all because of their long tradition of applying international quality criteria to their research.

In addition to the quality, the question of development relevance of the research has become highly important; however, without quality even high relevance of the research will do little good.

Combining the research with real life needs. Over the years Sida and SAREC have time after time demonstrated how it is possible to create good academic quality in low-income countries. There are also examples of successful applications in real life, even of quite theoretical research based knowledge, and such applications are increasingly part of the North-South cooperation today. The high priority given by Sida to direct development relevance is clearly reflected in the kind of projects (the themes) that have been supported in recent years.

However, it is hardly constructive to make a narrow definition of what is relevant – a classification of research fields according to their usefulness is often very difficult. For example, nanotechnologies are likely to become highly important for our daily lives in the future, also in developing countries, but it is hard to imagine how nano technology experts can be trained without a solid foundation in the basic sciences.

The continued need for cooperation with Swedish universities.

As discussed above, it is clear that the Swedish sandwich model for research training has been successful in several ways. An underlying, but very important reason is the quality assurance provided by Swedish universities; there is no doubt that cooperation with Swedish universities will remain important for years after the degree programs have been moved South, at least as long as the Swedish university partners remain motivated.

Increasing economic and academic pressure on Swedish universities. It is not only in the South that conditions are changing. It is also happening in Sweden, where the economic pressure on universities seems to grow continuously. Especially one kind of economic pressure to be placed on Swedish universities may have considerable consequences for the cooperation with developing countries. It seems highly likely that Sweden from 2011 will follow other Nordic countries (Norway and Denmark, but possibly not Finland) by limiting the Ministry support per student provided to universities to include only compensation for students from EU countries. Swedish politicians have mentioned that a new system of stipends for excellent non-EU students may be introduced. Nevertheless, the change is likely to make studies in Sweden much more costly than earlier for developing country students without special stipends. Since the total costs for the studies often is the determining factor for the choice of where to study, the change is likely to lead to a reduction in the number of students from developing countries at Swedish universities.

Furthermore, a mechanical count of publications and citations will become an important part of the background for the Swedish Government's provision of research funding to universities. This is an international trend (fashion), and also the neighboring countries of Sweden have started to follow this practice. Although measuring research productivity makes a lot of sense, the present model may be too primitive. For example, in the present context, it does not give any credit for research capacity building in developing countries, which, after all, is also a useful research outcome.

Preserving and improving the North-South research cooperation: A difficult task. It is thus clear that there are considerable challenges on both sides, both in Sweden and in the South. Is it possible to modify the conditions for Swedish research cooperation with the South in a way that motivates Swedish universities to efficiently support partner universities in their efforts to obtain the needed qualitative and quantitative levels for research training and to join the global knowledge society?

How can such modifications serve the self-interests of Swedish universities so that cooperation with the South becomes a priority in the strategic planning of individual universities? In order to answer these questions a survey was performed at Swedish universities.

4. A survey among Swedish university researchers and managers

The conditions for the survey. Annex 1 contains the terms of reference for the study, which was carried out from mid-September to mid-October, 2009. In order to investigate the interests, experiences and wishes at Swedish universities with regard to research cooperation with developing countries, Sida provided a list of names of researchers involved in such cooperation, as well as of some university managers (rectors and deans, etc.). In total the list contained a small number of names (1–5) at each of 9 Swedish universities. In the following these persons will be referred as the Panel. The following ten universities were represented in the Panel:

- Karolinska Institute
- Royal Technical University
- Swedish Agricultural University
- Blekinge Technical University
- Lund University
- Göteborg University
- Linköping University
- Uppsala University
- Umeå University
- Stockholm University

In spite of the timing, which coincided with the semester start, the interest for the study was substantial among both researchers and university managers. The vast majority of persons contacted answered positively, and only a few did never reply (after at least three requests). In a couple of cases a researcher or manager with severe time constraints passed on the assignment to a colleague and a single university rector only wanted to discuss Sida research policy matters with the Sida management. However, on the whole, the observations given below must be considered representative for management and research staff at Swedish universities.

Using a simple questionnaire. Initially the Panel members were given a simple 2-page questionnaire (Annex 2). Few researchers like to spend much time completing long questionnaires, therefore an attempt was made to keep it short and simple. In most cases the statements in the questionnaires were further discussed during personal interviews during visits to Swedish universities or, when this was not possible, by e-mail or telephone interviews, especially when there was a need for clarification of the replies in the questionnaire.

Almost complete “agreement” between university management and researchers. The same questions were asked in an identical way to the two groups within the Panel: university managers and university researchers. The latter group had all been actively involved in cooperation with universities in the South. So had several, but not all of the rectors, deans, and other managers who were asked. It was remarkable that it was not possible to detect any significant, systematic differences between the replies from the two groups. It seemed like the agreement of the replies within each single university was slightly better than it was overall, although the difference between institutions was not large.³

For the detailed outcomes of the survey, please see Chapters 5 and 6 (the latter contains an attempt of a quantitative measurements).

³ There seemed to be an indication that the old partners, with vast experience in sandwich model research training, were more comfortable with their assignment than the newer partners with less experience, but even this may have been a coincidence.

5. Swedish universities: Past experiences

Considerable satisfaction with the present conditions for the cooperation. There is, with few exceptions, great satisfaction among both managers and researchers with the present research cooperation with developing countries, usually based on sandwich degree programs leading to Swedish degrees. This was the answer from essentially all Panel members, both researchers and university managers.

Satisfactory economic compensation for time used on cooperation with the South. One, but not the only, important reason for the satisfaction may be that the economy in the cooperation with the South is not bad. Most agree that the time spent on this kind of work is reasonably compensated by either Sida or the Ministry of Education; this is done according to the normal rates, e.g. for degrees awarded. This is not the case in all countries. In Norway, for example, the similar NUFU program assumes that universities and/or individual researchers provide some free services. Such assumptions may no longer be as realistic as in the past, with the increasing economic pressure on universities in the North, as discussed above. The pressure to produce more traditional and measurable research outputs will make it harder for academic university staff to take time out for other purposes.

Many other good reasons for the present satisfaction. In addition to the satisfactory economic compensation, there are many other reasons for the general satisfaction, both for researchers and for management. Several Panel members mentioned that they felt good about the contributions they made this way to a better and fairer world. Many also appreciated the access to the often very bright graduate students that come to Sweden through the cooperation with developing countries.⁴ The more international and multicultural university environment resulting from the cooperation was also considered an important benefit.

Some researchers felt refreshed by the changes in their normal tasks, the new challenges, and the less traditional research themes resulting from cooperation with countries in the South. In several fields the opportunity to perform research based on data collected by students in countries far away, as part of their graduate training, was considered of considerable importance. Some also considered the improvement of the Swedish knowledge base on developing countries an important outcome, although they did not feel that the Swedish society in general considered this important.

Recognition for work in the South. Although many Panel members did not feel that they lacked recognition for their cooperation with the South, others actually did. It is clearly an important issue for the universities and their ministry that good work within priority areas also lead to proper recognition. The fear is that some university managers may be

⁴ The number of these students is often substantial, some universities mentioned that 10% or more of their doctoral students came from developing countries

tempted give lower priority to cooperation with the South because of the financial demands. Since the government initiatives (PGU, Knowledge without Borders, etc.) do not specifically deal with the rewards for internationalization contributions, Swedish universities will have to develop clear policies to solve this problem if they want to have a broad range of research interaction with the South. There may possibly be a risk that some universities will decide that cooperation with the South is too costly compared with “traditional” research cooperation.

While recognition to those working with the South primarily is an issue for the universities and their ministry, some felt that Sida could be helpful, for example by pointing out to Swedish media good examples of important Swedish university contributions of this kind. The value of research capacity building in a country may often in the long term be much greater than that of a new bridge or a power plant, and Sida may be able to clarify this to the Swedish public and politicians.

All is not perfect: Simple improvements may still be made in the research cooperation with the South. In spite of the satisfaction, it is hardly surprising that few, if any, Panel members considered the present conditions perfect. Several of the problems were minor or of a more technical character. For example, several felt that the bureaucratic demands from Sida or from the partner in the South were too time-consuming and that the frequent changes in the administrative conditions and procedures were difficult to handle (these matters have often low priority – most prefer to concentrate on their research). Communication with the partner was at times difficult, frequently due to ICT problems in the South, in spite of the fact that Sida often makes a major effort to ensure that the ICT capability in the South is sufficient for smooth communication between partners.

Also other smaller problems were mentioned, such as insufficient language skills among the graduate students. At times the new graduate students’ knowledge of English was inadequate, even when they had been carefully selected by the partner institution in the South; it seemed like the standard demand of a minimum level of language skills among these students was not always enforced. Also the communication with senior researchers in the South could at times suffer from language problems.

Several mentioned the advantages that might follow from a larger involvement of Swedish graduate students in the research cooperation, and were convinced that an improved availability of funds for Swedish students’ study visits in the South would be very useful. Students usually learn very much from each other, and bringing Swedish students to universities in the South would provide outstanding opportunities for such learning.

However, other frequent problems in the cooperation were of a more fundamental nature, as discussed in the following.

Inefficient financial management in the South. Most Panel members commended the Sida policy of giving increasing power over decisions (ownership) to the partner in the South, at least in principle. However, many added that in practice it might cause severe problems. In particular, the traditional, slow and bureaucratic administrative practices in many developing countries are often poorly suited for the needs of modern research universities. Universities in the South are these days often in transition between being teaching universities and research universities. While the former can be managed according to routines, the latter

often require fast and efficient management. This transition state regularly leads to unnecessary obstacles in the research cooperation (see Box 3).

BOX 3. COMPLICATED FINANCIAL MANAGEMENT IN HONDURAS

Research is a fairly new activity at UNAH, the very large and dominant national university in Honduras, and it is, among other, difficult for management to adjust to the sudden, urgent needs for purchases that come out of active research. Such needs are rare in traditional teaching universities, but today they often lead to power struggles between active researchers and old-fashioned management at emerging research universities.

Common problems are, for example, the occasional need to buy specific laboratory supplies on a short notice, caused by developments within the research, or the sudden need of a researcher to travel to a conference, a few months ahead. If the researcher has a grant covering such expenses the matter may seem simple, but it is not!

A couple of years ago an attempt was made at UNAH to follow the request for release of such funds (originating from Sida) for the purchase of an air ticket. It turned out that the request had to go through about 40 steps, many of them requiring a stamp and a signature of a person in the university management. Some of these persons were at the top of the management structure and thus often very busy. It is therefore not surprising that the ticket in many cases could not be purchased in time for the conference, which usually left the researcher highly frustrated.

Management claimed that the complicated procedure was necessary in order to prevent misuse of funds. However, it seems likely that a simple and transparent procedure would be more efficient, also in this respect!

Some considered such problems, especially within the financial management, among the most difficult in their cooperative activities and felt that the transfer of project ownership to developing country partner universities should depend on their capacity to provide reliable and efficient management of the finances. It may be added that the frustration felt by researchers in the South often dwarf the frustration among Swedish partners experiencing these problems!

Second jobs, insufficient time for research. Many researchers in the South can barely survive on their low university salary. Therefore second jobs are common among them in many countries. Many Panel members felt that this had a negative influence on the research cooperation. However, many in the North did not know in detail which problems of this kind their partners in the South had to deal with.

Little research time during visits at home. One of the few severe problems mentioned in connection with the sandwich model, was the frequently low productivity of otherwise hard working sandwich students during the periods they spend at home. This may have several good reasons, they often have to take care of practical and personal matters, and since they are usually university employees, their duties have at times accumulated during the periods they have been away from home.

Brain drain, uncertain career opportunities at home. It was a common experience among Panel members that although the sandwich model reduces the risk of brain drain considerably, it is not eliminated, at least not in fields like engineering and medicine. Some felt that there still is a risk that some of the best young researchers, trained through

Sida financed cooperation, decide to leave their country. The direction of brain drain is often from African countries to North America, but brain drain is also seen within Africa. It was suggested that a stronger reliance on demand-driven graduate programs might reduce this risk, for example if these programs are defined in cooperation with potential employers in the South, also in the private sector.⁵

Another problem that had been observed by many Panel members was the disappointment often experienced when newly graduated PhDs return home. In spite of their new qualifications, usually superior to those of their old bosses, they do not receive proper promotion, salary increases, and rights (e.g. to a pension) relative to what they had before the start of the studies.

It may be added that it is an obvious weakness of many cooperative projects that a systematical collection of information on the further careers of the graduates does not take place. Such a collection might become a valuable source of information about how to maximize the benefit of the cooperation for countries in the South.

Changes in the research financing at Swedish universities. Some Panel members also saw the risk mentioned above in connection with the new financing model, rewarding some very specific research outputs. This policy may reduce the interest for cooperation with colleagues in the South if it does not lead to the required high production of publications, citations, etc. Many felt that it often was hard for partners in the South to compete with potential partners in industrialized countries with access to state-of-the-art laboratories, etc., in spite of the many talented students that are usually available in the South.

Note that this problem primarily occurs in fields that do not benefit directly from access to data from developing countries. Unfortunately, many of these fields are of key importance for economic development. In fields like, for example, malaria research, tropical botany, tropical agriculture, technology transfer, and development studies, cooperation with the South will remain a necessity, also for the production of research papers.

The interdisciplinary of the real world. Another concern was related to the fact that real problems in this world are usually interdisciplinary. Therefore development relevant research tend to be interdisciplinary too, an orientation that is shared by very few leading research journals. Replacing traditional research subjects with some that are development relevant may therefore be considered risky in connection with the need to publish in mainstream journals. There was also among several Panel members a conviction that it is easier to produce high quality research (in the traditional, measurable sense) in theoretical fields than in applied and interdisciplinary fields (including directly development relevant fields).

Thus the changes in the conditions and risks for research cooperation and graduate training do not only take place in the world outside Sweden, there are also local developments in Sweden that may require a revision of the strategies for research cooperation.

⁵ It has been estimated that Africa loses more than 20,000 academics annually through brain drain (www.africaonline.com; www.ethioworld.com; <http://allafrica.com>)

6. The survey: Preferences and opinions

General, but not complete satisfaction with the present system for North-South cooperation. Essentially all researchers and managers that were asked (97%) found the present cooperation with the South is a positive activity, and almost as many (93%) wanted to increase their participation in such activities (see Table 1). Nevertheless, there were several issues and reservations, as described in Chapter 6 and further discussed in the following.

It must again be stressed that it is an important part of the background for this satisfaction that Swedish universities (as well as individuals) receive a fair economic compensation for the time spent on the cooperation with partner universities in the South. Without this compensation, the satisfaction might have been much lower.

TABLE 1. SWEDISH UNIVERSITY VIEWS ON RESEARCH COOPERATION WITH THE SOUTH

Answers in %	Yes	No	Maybe
Is the present research cooperation is satisfactory?	97	3	0
Should the present cooperation be expanded?	93	0	7

Individual rewards for cooperation with partners in the South. As long as the cooperation leads to strong research activities and efficient production of research papers, the individuals involved are in the same situation as their colleagues who cooperate with researchers in industrialized countries. As mentioned above, there are even research fields for which cooperation with developing countries is not only beneficial, but also necessary, for this kind of productivity. However, in some other cases the cooperation with the South is not as productive when it comes to research papers.

Views on new Government internationalization initiatives, supporting North-South partnerships. Most researchers and all managers had heard about the PGU, although many did not know it in detail; still more than 80% said that it was a positive initiative and none found it directly misguided. However, a few commented that it was too vague, or that the importance of research in general and in specific research fields was not clearly understood. A single Panel member was unfamiliar with the national policy on internationalization.

The bill on “Knowledge without Borders” was even less well known by university staff, but several mentioned that it contained new opportunities for universities. They found, in particular, that the improved possibilities for entering into agreements on joint courses, degrees, etc. with foreign universities, were very positive.

The communication between Sida and the universities. The answers to the question about “how satisfactory the communication with Sida was” were quite scattered. 42% found it fully satisfactory, while 38%

found it less satisfactory. The rest of the Panel gave mixed answers. A few did not answer the question. During interviews, several said that the communication had been better in the old days, when they dealt with SAREC.

Among the reasons given for the dissatisfaction were problems with the general policy, for example the declining number of Sida countries, which sometimes made it necessary to stop a productive cooperation prematurely after huge efforts had been made getting it running. Changes in formal demands, report forms, etc. are always time-consuming and several wanted Sida to be less bureaucratic. However, only a single researcher said that a Sida staff member was “not interested” in the research project under discussion.

Several felt that Sida staff should spend more time in the Swedish partner universities, together with the developing country students and their Swedish advisers, instead of using most time for visits to the Southern partner universities. Finally, some had a feeling that the young and less experienced members of the Sida staff were afraid to discuss the issues with older and much more experienced university managers and researchers. In most cases there is no reason at all for such fear.

Although the decent, but fairly modest scores may disappoint some members of the Sida staff, there is little doubt that the satisfaction at universities over the cooperation with the development authorities is better in Sweden than in most other industrialized countries. This kind of partnership is not in itself a simple one, it is difficult by nature, and the fact that over half of the researchers involved are satisfied is a quite positive result. Several Panel members recognized this and gave praise to members of the Sida staff members who make a major effort to understand the complicated research issues.

The information provided by Sida. Almost half (48%) of those who replied found the information from Sida satisfactory, only one third (33%) found it clearly inadequate. One Panel member mentioned that it was easy to get the wanted information simply by asking Sida, even if the information was not, as would otherwise be expected, provided automatically. Some felt that too much information was provided in only in Swedish language; often the information was also useful for the partners in the South, and it was then much better to get it in English. This may be a misunderstanding – Sida intends to provide every important document in English. In any case, it is clear that in order to ensure full project ownership in the South, any important information should be provided in English (possibly in addition to Swedish).

During the survey it became clear that Sida does not in all cases automatically make existing material and information (earlier evaluations and other reports) available to groups at Swedish universities entering new partnerships in the South. Clearly, such information would often be very useful.

TABLE 2. COMMUNICATION BETWEEN SWEDISH UNIVERSITIES AND SIDA

Answers in %	Good	Not Good	In Between
Present communication with Sida	42	38	20
Information provided by Sida	48	33	19

Management of research training. There was an overwhelming agreement (81%) that Swedish universities should manage the research training of PhD students from the South, among those who answered this question. However, some researchers (not managers) were opposed to this, partly because of a fear that it would increase bureaucracy. Interestingly, several of those who favored giving the management of research training to Swedish universities did so because they felt that it would simplify bureaucracy!

TABLE 3. SWEDISH UNIVERSITIES AS MANAGERS OF SIDA SPONSORED RESEARCH TRAINING

Answers in %	Yes	No	Maybe
Should Swedish universities manage the research training?	81	14	5

Creation of MSc programs in the South. A majority of the Panel (54% of those who gave a clear answer to this question) also felt that development of MSc programs in the South was important. About one fifth (21%) found this to be of less importance, partly because a better quality could be produced in Sweden, while 25% answered that it would depend on local conditions, choice of research subject, etc.

TABLE 4. VIEWS AT SWEDISH UNIVERSITIES ON SIDA-SUPPORTED GRADUATE TRAINING

Answers in %	Yes	No	Maybe
Present sandwich studies are efficient	82	18	0
MSc programs in the South are efficient	54	21	25
Sweden should help establish PhD programs in the South	83	9	8

The Swedish role in the establishment of PhD programs in the South. A vast majority of the Panel (83%) felt that it was important for Swedish universities to take part in the development of strong PhD programs in developing countries, assuming that a sufficient human base had already been created, for example through sandwich PhD programs at Swedish universities. An additional few (8%) would also like to do so, but only if conditions were right.

Visits by researchers to partner universities in the South. Most Panel members felt that sufficient support could be provided through shorter visit (a few weeks), while only a few thought that long term visit (a semester or more) were required, except in a few cases. Some said that strong and active researchers could rarely be away from home for a long time; since this is the kind of researchers that are needed, short term visits would be best.⁶ However, a couple of active researchers said that they were willing to spend an extended period in a developing country, with or without their family, in order to support the development of a PhD program in their field.

Many emphasized that in most cases the Swedish involvement would have to be quite extensive, providing advice on not only the science, but

⁶ It may be assumed that those who said this did not have researchers from fields that are dependent on data from developing countries in mind. In such fields longer visits may make sense, also for other reasons.

also on rules and regulations for the degrees. However, with access to e-mail most did not consider the time limitation of the visits a major problem.

Different options for PhD programs. Presently most PhD programs supported by Sida lead to degrees at Swedish universities, but with an increased responsibility for Sida-sponsored research training in the South this will change. Already today, some universities are using (or planning to use) other options. Slightly different definitions of the degree types seem to be applied; in this report the following definitions are used:

- Swedish degrees, given by a Swedish university – as usually done in the past
- Double degrees, where the PhD student performs the studies and produces a thesis in a way that satisfies the demands of both a Swedish university and a university in the South. The student receives two diplomas, one from each university
- Joint degrees, where the two universities agree on the formal and real requirements and the student receives a diploma signed by both universities, as described in Box 2 above.
- Developing country degree, given by a university in the South.

Joint degrees require firm agreements between the Swedish university and the partner university in the South. Karolinska Institute has applied such agreements (Box 2), while most other institutions have felt that they could not do so due to Swedish law. This obstacle is now likely to be removed. Also double degrees will in practice require an agreement between the two universities, but in the case of joint degrees a transfer of more managerial competence will automatically take place, before the two universities can issue a common PhD diploma. This may be considered an important advantage.

Many Panel members emphasized that it is of great importance for Swedish universities to be recognized as the responsible institutions for PhDs, since it results in a substantial financial compensation from the Swedish State.

When the Panel members were asked which kinds of degrees they preferred (note that they each were allowed to select more than one option), 64% listed the joint degree as (one of) their preferences. A Swedish degree came in second – 27% listed that as a good option. The double degree was mentioned by 21% of the Panel members, while the least popular was the degree from a university in the South – only 15% listed this as a good option.

TABLE 5. SIDA-SUPPORTED PHDS. DEGREE TYPE PREFERENCES AT SWEDISH UNIVERSITIES

Answers in %	Swedish	Double	Joint	South degree
Recommended type of PhD program	27	21	64	15

One would suspect that the low support for degrees outside Sweden was caused by the reduced economic compensation it would give to the Panel members' own universities. However, most did not mention money at all, instead they emphasized potential quality problems – many partners in the South are not yet ready to produce PhDs on their own,

and as long as they need substantial support from a Swedish university, proper credit (and funding) should also be given.

Changing interest in Sweden as a result of PhD programs moving South. The Panel members were also asked if their interest and commitment would change (read: decline) if the PhD programs formally were moved to universities in the South. Only few (13%) replied that it would not change their interest; the vast majority was certain (57%) or fairly sure (30%) that it would reduce their interest. However, since conditions were not specified in any detail in the question, the attitudes of some might change if proper incentives were put in place. It is also important to note that the interest would not disappear at all!

Even after a university in the South has established its own PhD program in a field, it still needs to cooperate internationally. PhD students will need to experience research in other countries, and (shorter) study visits abroad are a necessity in many research fields. The new PhDs may also in many cases need further international exposure; spending a post-doctoral period abroad would often increase their competence greatly. (Former) Swedish university partners would in many cases be ideal hosts for such young researchers, and many Panel members confirmed that post-doctoral fellows from the South, even those only partly financed by Sida, would be well received and greatly appreciated by Swedish universities.

Establishing joint courses and degrees with partners in the South. Essentially everybody (85%) that answered the question about their interest in developing joint courses or degrees with partners in the South, were positive towards these activities. Also the remaining 15% might be willing to do so under the right conditions, e.g. with respect to quality, influence, and compensation. However, while designing and running joint courses was considered a fairly simple matter by many, several comments on the establishment of joint degrees indicated that establishment of these was considered a major task.

The question about graduate (PhD) schools run in Sweden for developing country students and other students, including some from Sweden, also received a very positive response. No less than 92% declared that they would like to take part in these activities and the remaining 8% would do so under the right conditions. Several commented that they were already involved in graduate school activities. Many noted that this design would have several advantages, while others felt that there would be little difference from way the present PhD programs were running. In Lund, for example, a graduate research school in Biotechnology has been proposed, with integration and establishment of international research networks as some of the goals.

Finally, almost the same share (91%) would like to take part in the establishment of graduate schools in the South, and the remaining 9% would do so, but only under the right conditions.

There was wide agreement that graduates schools in Sweden should have an international student body, not only with Swedish and developing country students, but also, when possible and convenient, students from other industrialized countries. Many also felt that Swedish students would benefit from doing part of their studies in a developing country. One might even imagine that joint graduate schools, including both activities in Sweden and in the South, would be of interest within some research subjects.

**TABLE 6. INTEREST AT SWEDISH UNIVERSITIES IN
SIDA-SUPP ORTED GRADUATE TRAINING**

Answers in %	Yes	No	Maybe
Interest will decline if training is moved to the South	82	18	0
Would like to help create joint N/S courses and PhD programs	85	0	15
Would like to work with graduate schools in Sweden	92	0	8
Would like to work with graduate schools in developing countries	91	0	9

7. Conclusions and recommendations:

How can Sida best facilitate an efficient cooperation of Swedish universities with partners in the South?

Continued need for extensive involvement of Swedish universities in research capacity building in the South. In order for Sida to continue its support for urgently needed research capacity in developing countries, including strong bases for graduate research training, a partnership with Swedish universities remains a necessity. This is the case with respect to research methods in individual fields, research methodology, dissemination of research results, search for research funding, mentoring strategies, build-up of research infrastructure. However, the partnership is also in the future important for more bureaucratic, but highly important activities, such as the establishment of regulations for research degrees, quality assurance systems, and other aspects of a research university culture.

During the last few decades Swedish universities have, on the whole, made significant contributions to research capacity building in the South and a valuable knowledge base about higher education and research in developing countries has been created at Swedish universities. It is an immense strength for Sida and Sweden that the country has many universities, departments, research groups, and individual researchers with extensive knowledge about and experience in cooperation with the South, often in fields of high development relevance.⁷ Compared with many other areas of development cooperation and compared with many other donor countries, Sweden has a substantial comparative advantage in this connection. It is important to use this as well as possible. In the following, a number of recommendations to this end will be made.

Fortunately the survey demonstrates that *there is a continued strong interest at Swedish universities for being active partners with developing country universities*, also in the future. Well over 80% of the Panel was reasonably satisfied with the PGU and other recent national initiatives with regard to internationalization (although not all were very familiar with them).

Long-term agreements. One of the leading general recommendations expressed by both researchers and management at Swedish universities was that their agreements with Sida and the partner in the South should cover as long time-spans as possible. It takes time to build research capacity, usually a decade or more, as demonstrated by SAREC in numerous cases. It also requires a considerable investment of time by the Swedish partner, both to obtain a full understanding of the needs of the partner and to plan the required actions. The latter may include longer visits by Swedish university staff in developing

⁷ It is, however, a pity that the value of this knowledge base is not always fully recognised in the Swedish society, maybe not even in other parts of Sida.

countries and other activities that have to be carefully planned and prepared well in advance. *There was wide agreement at Swedish universities that both institutions and individuals in Sweden would be able to do a better job if they knew that the work would continue for a reasonable time-span.* This is usually also the case, but at times changes in the group of Sida countries have led to worries among the researchers involved.⁸ *In view of the particularly long time frame for research capacity building, Sida may consider extending the exit periods further for such projects.*

The universities are not asking for blank checks, there was a clear understanding of the present practice, that projects, also those based on long-term agreements, should only continue if satisfactory progress could regularly be documented. It was also clear that in addition to long-term capacity building, there might at times be a need for short-term actions.

General umbrella agreements with individual Swedish universities.

Several researchers felt that the bureaucratic demands they experience in connection with their cooperative project could be reduced if the project became part of a more general agreement between Sida and their university. This would, for example, mean that the researchers in many cases would communicate with the financial administration of their own university and not directly with Sida. It would also mean that university activities in developing countries would get a more prominent place than they have today in the official strategic plans for the universities.

In this connection it is interesting that some top managers at Swedish universities expressed a strong interest in regular meetings with leading members of the research staff at Sida. Sida should take advantage of this. Such meetings may in several ways be useful, it might, for example, be possible to discuss the benefits of more general university contracts discussed above.

In addition to an administrative simplification, some felt that an umbrella agreement of each university with Sida might help ensure that proper credit is given within the institution to individuals, research groups, or departments that are heavily involved in cooperative projects with the South.⁹ A general agreement may also place work in developing countries in a more central role in the strategic planning at individual universities.

Improving the communication between universities and Sida.

Although there was a reasonable satisfaction with the present communication, it might be improved in some respects. *Sida staff should more often take advantage of discussions with graduate students from the South and their advisers at Swedish universities.* This may to some extent replace visits to partners in the South, which are expensive and time-consuming. Away from home graduate students from the South have more time to think independently, and they often develop highly constructive ideas about how their home base can best be improved. However, it is clear that some visits to partners in the South will always be necessary, even when other visits are replaced by visits at Swedish universities.

Although the cooperation mostly is smooth, *it may at times be difficult for young staff members of Sida to discuss complicated research matters with older and highly specialized Swedish researchers. In most cases such fear is completely*

⁸ Several researchers also deplored the restriction of cooperative partners to the group of Sida countries

⁹ Sida may also help promote deserved recognition by informing the media about outstanding contributions of this kind

groundless. On the contrary, an increase in this kind of exchanges may benefit both the Sida staff, who will gain more insight in the substance of the research, and the researchers, who may understand the priorities and limitations of Sida better. In addition, some Panel members would like to have more extensive discussions about both strategies and practical details with the Sida staff. Some Panel members also found that it would be better if Sida staff could take care of some of the tasks that are now handled by external consultants.

Information provided by Sida. The North-South partnership is best based on an open exchange of information. Some researchers felt that too many communications from Sida were only available in Swedish, which made this openness more difficult. This is in contrast to the general rule that Sida's documents should be in English and may be due to a misunderstanding. *In any case, Sida should further emphasize that any information and material that may be of interest to partners in the South must be available in English.*

Making better use of existing information. Sida has a wealth of information about higher education and research in developing countries, especially in the form of evaluations and other reports, but this kind of information is not automatically provided to research groups which take on new Sida sponsored partnerships with one of these countries. *Sida should always, as a standard, provide new Swedish partners with a collection of existing, relevant material.*

Collecting key information. One kind of highly important information, which is not collected systematically, deals with the future careers of students from the South after graduation. Collection of such information has become much easier after e-mail has become widely available and it would provide a wealth of insight on how to optimize benefits for the South of the graduate training. One example of this would be information on brain drain, reverse brain drain, and why these events take place. In cooperation with project partners, *Sida should initiate a systematical data collection of the careers of graduates from research cooperation projects. It should not only cover new graduates, but also, to the extent possible, earlier graduates.*

Reducing the most frequent problems within the sandwich model. In general the sandwich model is very popular at Swedish universities. It is also considered fairly efficient, although the stays in the home country in some cases were not sufficiently productive, due to many other demands for the students' time or problems with the local financial administrations. Furthermore, it is sometimes a severe problem that even brilliant students cannot get proper jobs at home after graduation. *Sida must continue its efforts to negotiate contracts with universities in the South, which specify the rights of sandwich students to sufficient research time during the periods they spend at home. Equally important, the contracts should guarantee the students proper jobs at home after graduation, which recognize their new qualifications. In the future the employability of research graduates and their ability to satisfy specific labor market needs in their country may become increasingly important. It should be considered how the selection of research fields and the graduate training could be made more demand driven.*

The problem with inefficient and stubborn financial administrations is difficult; at times it is very costly in terms of research productivity and capacity building. Sometimes it creates a dilemma between Sida's wish to give full ownership to universities in the South and the needs,

especially of the local researchers, for efficient and smooth financial services. *In difficult cases it may be better to use a compromise for some years, for example the “bypass” model used at UMSS in Cochabamba, Bolivia, where the Sida funding was handled efficiently by a special, small and much less bureaucratic, unit within the university.* Hopefully, this example of lean management can act as a role model for the traditional management system.

Some smaller problems should be simple to solve through a dialogue between Sida and the universities. One example is the, at times, insufficient knowledge of English among the sandwich students. *Sida should assist universities in demanding a documented minimum level of English skills by all students before they start the graduate training in Sweden.*

MSc programs at universities in the South. Most Panel members found that development of MSc programs in the South is useful. However, many emphasized that it should only be done when conditions are right and the quality sufficient. This will depend on the field in question; thus *a proper strategy for a university in the South may be to start with a few MSc programs in fields that are ready and gradually expand to other fields when they have developed to a proper level. Based on these experiences PhD programs may later be developed.*

Swedish involvement in PhD programs in the South. The Panel members overwhelmingly felt that Swedish universities should be involved in the development of PhD programs in the South, on the condition that the necessary competence exists, and especially if it has been created through sandwich programs at Swedish universities. Thus *Sida can count on Swedish university support when such initiatives are taken; however, the support will depend on to what extent the conditions are present for creating sufficiently strong programs.*

Choosing the best type of degree. Within the Panel there was solid support for the creation of joint degrees between a university in the South and a university in Sweden. Most Swedish universities have so far been hesitant to get involved in such degrees, but this will change as a result of the modernized university regulations in Sweden. *Joint degrees are strongly recommended; they have the added advantage that they require a close cooperation and firm agreements between the two universities. Thus a useful transfer of administrative experience (rules and regulations for the degrees) has to take place in addition to the creation of subject specific research competence.*

As long as the developing country university is not ready to be part of a PhD degree in a meaningful way, a Swedish degree should be preferred. But when it is ready, *Sida may consider as a standard to recommend joint degrees as a framework for the cooperation. If this works well, the joint degrees may eventually develop into PhDs awarded by the university in the South on its own.* However, there may be special considerations in each case and, for example, double degrees may at times be preferred. Sida should not be inflexible in such cases.

PhD programs in the South: what will the future involvement of Swedish universities be? A large majority of the Panel members felt that their personal interest would decline if the PhD programs were moved to universities in the South, although a vast majority (84%) of them thought that Sweden should still be involved. When developing countries take over PhD programs on their own they still need cooperation with the North, and *Sida might consider offering new, proper incentives for Swedish universities to continue the partnerships. Among such incentives would be grants for short time study visits in Sweden by PhD students from universities in the*

South, and even more importantly, (possibly partly) Sida financed grants for one year long post-doctoral visits in Sweden. These post-doctoral visits should be organized in cooperation with the home institution/country of the PhD, so that they do not encourage brain drain. It may also be considered to provide modest research grants to post-docs in connection with their return to the home country, for example for needed equipment, etc.

Joint courses with partners in the South. The Panel members were very positive towards the development of joint courses in cooperation with their partners in the South. The advantages would occur on both sides, also for Swedish students who would experience an educational internationalization of their studies; these years such experiences are of great importance. *In addition to support for the development of joint courses, Sida may consider strengthening the partnerships by providing some support to Swedish students taking part of their degree program in the South alongside the local students.* This is a particular advantage in research fields that need data from the South (and might then be financed by general research grants), but would also be a useful experience for other Swedish students. In addition, participation of Swedish students would enhance the value of the graduate programs in the South.

Graduate schools in Sweden and in the South. The attitudes towards PhD schools in Sweden for both Swedish and developing country students were also very positive. It was clear that *it would be a considerable advantage for all if the graduate schools could enroll Swedish students, developing country students, as well as other students.* Some Panel members were already involved graduate school activities in Sweden.

A similar reaction was observed in connection with the questions about graduate schools in the South. *It is suggested that Sida opens up for proposals for partial financing of such PhD schools whenever they offer substantial advantages over the present models for graduate training, both in Sweden and in the South. However, most universities in the South do not yet satisfy the quality demands to a graduate school.*

International donor cooperation within higher education and research. There seems to be an implicit assumption in the TOR below and in much of the discussion within Sida and most other donor organizations that they operate alone and are responsible for almost everything on their own. There is no doubt that within higher education and research, Sida is an international leader with programs of high quality, and that Sida's research support activity is one of the flagships of the Swedish development programs. However, creating knowledge societies in the developing world is a huge task and there is a limit to what even Sweden can do on its own. This makes donor cooperation very important.

Sida is not alone in the fields of higher education and research capacity building – several other donor organizations are trying to achieve similar goals. Cooperation between these organizations would in many cases be highly productive, but it seems to be difficult to establish. Sida might instead consider encouraging Swedish universities, which excel in international cooperation, to establish cooperative links with universities in other countries which are working on research capacity building in the South within the same fields and countries (or even regions) as the Swedish universities.

Acknowledgement

It has been a pleasure to work with the Panel members, both during personal meetings with staff from 6 different universities and by telephone and, especially, e-mail. Most were highly interested in the study and many provided new insight in the problems and opportunities at hand.

Also Sida staff members were very helpful and provided many useful comments on the draft report. During a presentation in Stockholm on October 28, 2009, interesting discussions of key issues were also most useful.

However the main target for this study was the Swedish universities. Not only were they great hosts during visits, time after time they also demonstrated the fascinating value of conflicting ideas coming out of free and independent thinking. This may not always seem practical or convenient, but it is exactly what both Sida and researchers in developing countries need from their partners. Conform and subdued universities will not be of much use.

Annex 1. Terms of Reference

Perceptions of research collaboration with developing countries – experiences and views of Swedish universities.

1. Background

Since 1975 Sweden has supported research of relevance for developing countries. Initially it was mainly channeled through international research programmes and national councils in developing countries. In 1985 this approach changed and became more oriented towards promoting developing countries in their effort to create their own institutional research capacity. One important part of creating institutional research capacity was the training of staff at national universities to obtain doctoral degrees in relevant disciplines. This training was carried out in collaboration with Swedish universities.

One of the lessons learnt from the first ten years of research support was that sending students abroad on full time studies for several years was not an effective way to build sustainable research capacity. The *sandwich* mode of carrying out research training was seen as a far better alternative. The *sandwich* mode implied that students received research training in which the candidates worked on projects of relevance to their countries, while commuting periodically between their home university and a host university in Sweden.

The *sandwich* mode became the *modus operandi* of Swedish research cooperation and is highly appreciated by the cooperating institutions in partner countries. First, research training at a Swedish university provides an international research environment, access to well equipped labs and literature, opportunities to: collaborative research, participation in international conferences, publishing in international journals and to obtain an internationally recognized doctoral degree. Second, since the students are recruited among university staff and data collection is carried out at “home”, the sandwich mode contributes to retain staff and diminishes the risk of losing human capital to foreign countries.

Despite the success of the *sandwich* model as the main form of research training with graduation in Sweden, its shortcoming is found in the relative limited number of doctors it actually produces over time. Thus, the research capacity in one particular country will not develop fast enough. We also live in an ever-changing world: internationalization, population increase, demographic transition, knowledge based economies, creates new global challenges and changing trends in higher education and research, both in developed and in developing countries, which calls for new ways of cooperation and collaboration.

2. Current situation for higher education and research in developing countries

Factors such as population growth, migration from rural to urban areas and increased access to primary and secondary education, during the last decades, have created a tremendous demand for higher education in developing countries. Universities in have mushroomed and in some cases they have, in a few decades, increased with 5000%.¹⁰ Many of the new universities are private initiatives which offer educational programmes without any public control. Internationalization, massification and commercialization of higher education have become a major concern to developing countries. It is, however, not the demand on higher education per se that is a cause for concern, rather it is the lack of resources to meet the demands; limited number of qualified lecturers, lack of systems or limited possibilities to train qualified researchers/lecturers, lack of regulations and control of quality of higher education/research and insufficient infrastructure.

Social and economic development is today more frequently driven by advanced knowledge which is developed, acquired, transferred and used more efficiently and rationally by individuals, enterprises, organisations and states. When new technologies are introduced the demand on qualified knowledge grows. In developing countries there is a demand to participate in that development, to be part of the “global knowledge society” not only as consumers but also as producers of knowledge.

Against this background it is pertinent to find out how Swedish development cooperation can provide support and modalities that respond to counterparts need for increased capacity to meet national and global challenges.

2.1 Consequences for Sida support to partner countries

Sida has for many years supported the creation of national research systems in developing countries including research training in accordance with the *sandwich* model described above.

Although this model has been successful, it does not have the capacity to train an infinite number of researchers/lecturers, nor has this been the objective. The aim of research cooperation is rather to support the creation of national research systems which can reproduce and sustain themselves and thereby produce new knowledge. By training a core of researchers in specific areas of research, the sandwich model has, however, laid the foundation for creating local MSc and PhD training in partner countries. Many partner countries have achieved a critical mass of researchers in a number of disciplines and are now pursuing their own research training programmes. The increasing demand for higher education and quality also contributes to increasing requests from universities in developing countries on support for local research training.

One advantage of local training programmes is their capacity to host a far greater number of students than those being sent for PhD-training in Sweden, and subsequently more cost efficient. A second advantage of local PhD-training programmes is the improved ability to retain the graduated scholars at national universities and within the

¹⁰ In Nicaragua they had, in 1980, one university UNAN, today they have 53 universities (four public and the rest private).

country, compared with those who have graduated after several years of training abroad. The latter are more likely to settle in the country of study after receiving their degree, and no longer wish to return home. Thus, developing countries tend to lose their invested capacity.

In order for developing countries to create and sustain their own knowledge base it is necessary to create systems that reproduce new evidence based knowledge. But, it is equally important that the quality of such systems is guaranteed.

Sida already supports local MSc- and PhD-training in various countries. This has most often been done on a collaborative basis between a core of “sandwich” or local PhDs and researchers from Swedish universities who have participated in developing curricula, in setting up framework and regulations, and in imparting courses¹¹. The idea is that the Swedish collaborators successively will withdraw until the programme can rely on local capacity alone. This mode also warrants the quality of the local research training to be of no less value than the training that is offered to students in the “sandwich” model with graduation in Sweden.

Sida and country partners would like to increase the support to creation of local PhD training-programmes. Sida is very satisfied with the collaboration between Swedish universities and universities in partner countries, in creating research capacity through research training with graduation in Sweden, but would it be equally possible to collaborate in creating local PhD-training with graduation in partner countries?

3. Swedish context for internationalisation of higher education and research

3.1 Policy for Global Development (PGU)¹²

In the Bill Shared responsibility: Sweden’s Policy for Global Development, 2002/03:122,, the Swedish parliament laid the foundation for a general and common Swedish policy for global development. The overarching objective of the policy is to contribute to an equitable and sustainable global development with focus on people and countries with least resources and opportunities. Further, the policy states that this is a concern of the entire Swedish society and applies to all political areas.

PGU emphasizes how important it is for democratic societies to have citizens that actively seek knowledge and that improved levels of education is necessary for development in low income countries. Subsequently, the policy states that a continuous support to developing countries’ research and education systems, scientific exchange, and other exchange programmes is imperative.

In 2008¹³ the government released a more concentrated and concrete proposal of the Policy for Global Development and at the same time underlining the collective responsibility for its implementation.

¹¹ There are variations to how the training programmes are designed and function. Joint degrees have occurred but are limited due to Swedish legislation. “Sandwich” elements can be present in local PhD-training for students to experience an international research environment.

¹² Politik för global utveckling

¹³ Globala utmaningar – vårt ansvar. Skrivelsen om Sveriges politik för global utveckling 2007/08:89

3.2 The Swedish Government Bill “Knowledge without borders”

In the Bill “Knowledge without borders – higher education in the era of globalisation”¹⁴, the Swedish Government sets the framework for international mobility and compatibility of Swedish higher education. It proposes a number of changes in the current law on higher education with the aim to meet the need for increased internationalization of Swedish higher education, and to prepare for the global challenges.

International mobility is already increasing, and it is expected to continue to do so, which will have implications for higher education and national capacity needs. Borders can no longer retain people from studying and working in other countries, and subsequently conditions for loss (and gain) of national capacity are created. Instead of closing borders, countries, among them Sweden, tend to encourage international mobility, which also allow them to attract trained people. Thus, a knowledge society needs to be competitive to attract and retain a qualified workforce, the best students, the best teachers and the best researchers, and one way to do so is to ensure the quality of higher education and research in a country. High quality of education and research is considered to be crucial to its ability to attract qualified persons and a necessity for the national growth of a country and its future wellbeing.

The Bill states that participation in a global education sector requires harmonization of education and international quality standards.¹⁵ It recommends the elimination of all obstacles to the internationalisation of higher education and proposes, among other things, joint education programmes and joint degrees between Swedish and foreign institutions of higher learning.

The Bill, if accepted as proposed, will also provide new opportunities for Swedish research collaboration with developing countries.

4. Scope of study

Sida has decided to contract a consultant to carry out a study that will focus on the perceptions Swedish collaborating universities have of their research collaboration with developing countries. It will take into account past and present experiences of researchers, deans and rectors as well as views and suggestions of future collaboration.

It will more specifically look into how new modes of research training in Sweden could be developed, for example graduate/research schools compared to traditional research training etc.

It will further explore the interest of and conditions for Swedish universities and their researchers to become collaborative counterparts in creating local MSc- and PhD-programmes.

In carrying out the study the consultant shall take into account the following themes and questions:

¹⁴ Gränslös kunskap – högskolan i globaliseringens tid, 2008/09:175

¹⁵ The bill mainly refers to the Bologna process and the harmonization of the education systems in EU in which 46 countries participate. The proposal, however, does not limit joint degrees to any specific country or geographical area.

4.1 The role of the university in international research collaboration with developing countries

- What is the experience of past and present collaboration? Positive? Negative? Shortcomings? What can be improved?
- What is, in their opinion, one of the most important criteria necessary for the collaboration to work?
- Is there any interest from Swedish universities to increase this type of collaboration? Why? Why not?
- How can this type of collaboration be encouraged?
- Are there any significant obstacles to increase research collaboration with developing countries?
- How can research collaboration with developing countries be encouraged? By the government? By the university? What would be necessary to increase collaboration? What measures need to be taken?

4.2 Swedish universities' view of PGU

According to the Policy for Global Development all Swedish institutions have the responsibility to ensure that it is implemented.

- What is the universities' view of this policy and how do they relate to its recommendations i. e. how do they contribute to its implementation?

Today research collaboration with Swedish universities is mainly based on the personal interest of individual professors and researchers and rarely “institutionally” promoted by the universities' central authorities. Those who engage in research cooperation sometimes express that they do not receive enough credit for their contribution to develop capacity in developing countries (it is not academically rewarded, which may cause reluctance to engage in such endeavours).

- What can the universities do to promote increased collaboration with developing countries? (How) Can collaboration with developing countries and in development cooperation become an academic merit? What would it take? Other incentives/ideas?

4.3 Swedish universities' view of the internationalisation Bill

The Bill proposes a number of changes that hopefully will improve the conditions for international exchange and collaboration one example being joint degrees.

- Are these changes enough or are there more limits to needed and desired collaboration with international counterparts? Is international exchange and collaboration also promoted/rewarded in the academic merit system?

4.4 Swedish universities' view of different modalities applicable to collaboration with universities in developing countries

Sandwich training with graduation in Sweden. Positive and negative experiences. What can be improved?

Contribution to create local MSc-training. The creation of 2-year local MSc programmes is a step on the way to local PhD. The cooperating university has a core of lecturing researchers, but need to be supported by Swedish collaborating universities in curricula development and lecturing until self-sustainable and quality assurance systems are in place. This scenario would imply that Swedish researchers would stay

longer periods in collaborating country. Preferences: short term or long term when they can bring families? Other suggestions?

Contribution to create local PhD-training. Participating in curricula development, structures, and lecturing until they are self-sustainable and quality assured. Also, this scenario entails that Swedish researchers would have to stay for longer periods in collaborating countries. Preferences: short term, or long term bringing their families? Other suggestions?

Swedish degrees, joint degrees, double degrees or local degrees?

Even though there are exceptions, in most research training supported by Sida the PhD students are graduated in Sweden. The creation of local MSc and PhD where students will be graduated at their home universities would increase the focus on strengthening of local capacity.¹⁶ Would this model change the interest of Swedish universities and researchers to participate in research collaboration with developing countries? The internationalisation bill opens up for joint degrees. Would the development of joint courses and joint degrees be of interest to Swedish universities collaborating in research cooperation? The latter would also provide opportunities for Swedish PhD students to participate in courses in collaborating universities. What is required in order to establish joint courses and joint degrees? What are the obstacles and the necessary measures? Discuss pros and cons.

Graduate schools in Sweden (*sandwich* model) Sida is considering making funds available for support to graduate schools which could provide an added value to the “traditional” PhD-training. A graduate school could be organized by a host university and collaborating universities. The graduate schools would also assume the management and follow up of PhD-students. It is foreseen that the graduate schools not only would accept Sida supported *sandwich* PhDs, but also other students, thus offering an international research environment to all students. View of graduate schools as described? Other suggestions? Obstacles?

Graduate schools in developing countries (regional or national)

In addition to local PhD training national or regional graduate schools could be organized in developing countries. What is the view of Swedish universities on such venture? Would they be willing to contribute to creating national and regional research schools? Participation would require the same input from Swedish universities and researchers as is required from local PhD-training. Discuss pros and cons.

4.5 Swedish universities’ relation to Sida

- View of communication with Sida? Suggestions for improvement?
- View of information from Sida? Suggestions for improvement?
- Knowledge of cooperation context within which research collaboration take place? Suggestions for improvement?
- Would universities consider to administrate Sida’s research training programmes? How could this be carried out?

¹⁶ The shift in focus does not imply that the Sandwich model with graduation is obsolete. It will continue parallel to the support to local training programmes as many countries still do not have a critical mass of PhD scholars to initiate local PhD-training programmes.

5. Method

The consultant shall for the purpose of this study use relevant documents recommended by Sida (see attached literature list).

The method that the consultant shall use for this study will primarily consist of structured and semi-structured interviews of different actors at institutions involved in Sida research cooperation (see names on attached list).

The groups are:

- 1 Rectors
- 2 Deans
- 3 Researchers

Coherence and deviance in perception will depart from these divisions. If the consultant while implementing the study finds these divisions to be irrelevant, he/she should present his/her findings as they appear in the study.

6. The assignment

The consultant shall carry out a study in line with the scope of the study described above and report on its results to Sida. The assignment shall be initiated in September 2009 and be completed no later than 30 November 2009.

7. Reporting

When the mission has been concluded, the conclusions and, recommendations shall be compiled in a report that will not extend 30 pp. First, the consultants shall prepare a draft report in English to be submitted electronically to Sida for comments no later than 19 October 2009. Three weeks after receiving comments on the draft report a final version shall be submitted to Sida (electronically and in two paper copies). The report shall be written in Word for Windows and should be presented in a way that enables publication without further editing.

The major findings and conclusions from the draft report shall be presented and discussed in a seminar at Sida in Stockholm 28 of October 2009 to which also interviewed collaborators will be invited.

Annex 2. Research cooperation with developing countries:

VIEWS OF SWEDISH UNIVERSITIES

Respondent's name, institution: _____

1. Benefits of research collaboration with developing countries

What is your experience of past and present collaboration? Positive ☐
Negative ☐ Neutral ☐

Please state briefly what you consider the main benefits and what can be improved?

Would you like to increase this type of collaboration? Yes ☐ No ☐
How can such collaboration be encouraged?

2. The role of Swedish universities

Indicate briefly how you look at the *Swedish Policy for Global Development* which all Swedish institutions must help implement:

Research collaboration with developing country universities is usually based on the personal interest of individual researchers and is rarely “institutionalized” by the universities’ central authorities. The individual Swedish researchers are often given little credit for their contributions. What should Swedish universities do to ensure that a more satisfactory recognition is given?

3. The Swedish internationalization bill

This bill proposes a number of actions in support of international exchange and collaboration such as joint degrees. Are these suggestions sufficient or should more be done?

4. The relation to Sida of Swedish Universities

Is the communication with Sida satisfactory? Yes ☐ No ☐ What could be improved?

Is the information provided by Sida satisfactory? Yes ☐ No ☐ What could be improved?

Should the universities manage Sida’s research training programs?
Yes ☐ No ☐ How could this be done?

5. Different types of degree programs in collaboration with universities in developing countries

Is sandwich type training with graduation in Sweden efficient? Yes ☐
No ☐ What can be improved?

Is creation of local (developing country) MSc programs often a better strategy? (this would usually require that Swedish researchers stay longer periods in collaborating country) Yes ☐ No ☐ Any comments?

Should Swedish universities help create PhD programs in developing countries? Yes ☐ No ☐

This would usually require that Swedish researchers spend longer periods in the collaborating country. Is it preferable that these stays are short term ☐ or long term (a semester or more) ☐ Other suggestions?

Which of the following degree types would you prefer for developing country students: Swedish degrees ☐ joint degrees ☐ double degrees ☐ degrees in their own country ☐ (check all that apply)?

Presently most PhD-training supported by Sida is developed in Sweden and the majority of PhD students get Swedish degrees. Creation of local graduate programs, making it possible for the students to graduate at their home universities, is likely to strengthen the local research capacity more. Would this influence the interest of Swedish universities and researchers to participate in research collaboration with developing countries? Yes ☐ No ☐ – feel free to add comments below:

The internationalization bill encourages joint degrees; these might also provide opportunities for Swedish PhD students to receive training at developing country universities. Would development of joint courses and joint degrees be of interest? Yes ☐ No ☐

Please indicate what is required to establish joint courses and joint degrees and what would be the main obstacles:

Sida is considering supporting graduate schools in Sweden that would provide added value to the “traditional” PhD-training. A graduate school would be organized by a host university or by a few collaborating universities. The graduate schools would manage the training and follow-up of PhD-students. They might not only accept Sida supported (sandwich) PhD students, but also other students, thus creating international research environments. Would you be interested participating in such graduate schools?

Yes ☐ No ☐ Additional comments:

In some cases Sida might support national or regional graduate schools in developing countries. Would you be willing to help create such research schools? Yes ☐ No ☐ Additional comments:

Sida works according to directives of the Swedish Parliament and Government to reduce poverty in the world, a task that requires cooperation and persistence. Through development cooperation, Sweden assists countries in Africa, Asia, Europe and Latin America. Each country is responsible for its own development. Sida provides resources and develops knowledge, skills and expertise. This increases the world's prosperity.

North-South Research Cooperation

GLOBAL ISSUES

This study focuses on the perceptions Swedish universities have of their role as partners in research collaboration with developing countries. It takes into account past and present experiences of researchers, deans and rectors as well as views and suggestions of future collaboration.

It looks into how new modes of research training could be developed, and explore the interest of and conditions for Swedish universities and their researchers to become collaborative counterparts in creating local research training programmes in Sida's partner countries.

Swedish universities' view of the Policy for Global Development (PGU) is also addressed in this study.



SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

Address: SE-105 25 Stockholm, Sweden.
Visiting address: Valhallavägen 199.
Phone: +46 (0)8-698 50 00. Fax: +46 (0)8-20 88 64.
www.sida.se sida@sida.se

